

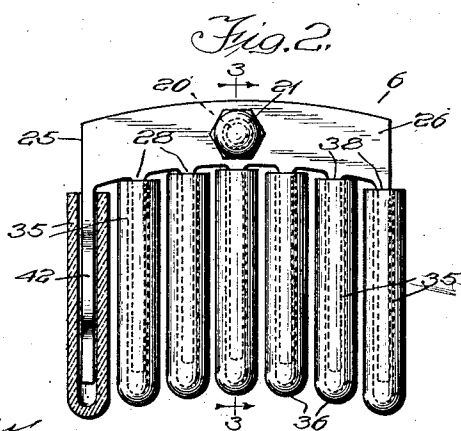
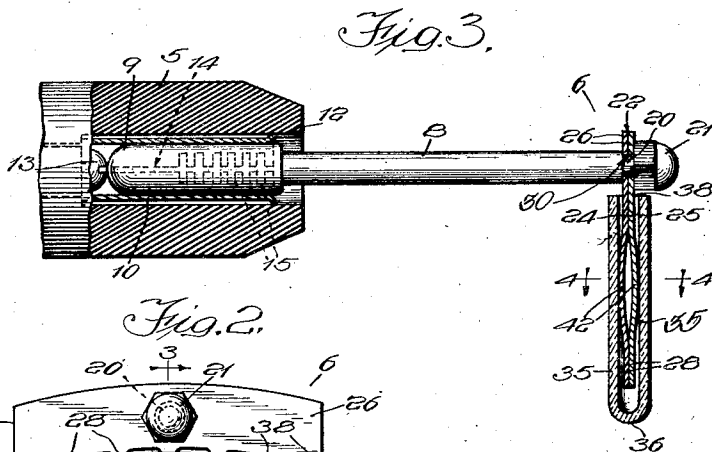
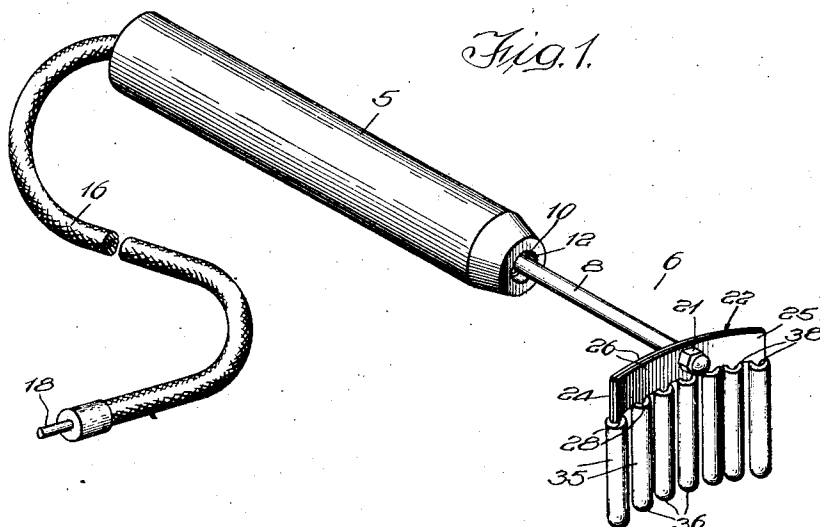
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SCALP TREATMENT DEVICE

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UNITED STATES PATENT OFFICE.

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SCALP-TREATMENT DEVICE.

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This invention relates to scalp treatment devices and more particularly to an electric comb, electrode or brush for electrical treatment of the scalp and hair.

5 The rake form of electrode made of glass tubing evacuated of air for treating the scalp with high frequency currents is well known in the art.

Electrodes of this sort are easily punctured by the current and are fragile and subject to breakage. This is objectionable in that the entire electrode thereupon ceases to function and heretofore repair or partial replacement, at least conveniently or by the user, has been impossible.

10 Non-vacuum electrodes silvered on the inside to conduct the current to the points in contact with the scalp have also been provided, but these, while not affected by puncture, are just as fragile and their percentage of breakage is high.

The object of my present invention is the provision of a generally improved and simplified device of this sort that may be economically produced and which will be less fragile, not so subject to breakage and adapted for repair or partial replacement quickly, conveniently and inexpensively from a reserve stock which may be kept on hand.

25 According to my present invention I provide an all metal or other suitable conducting material electrode which may be of the rake or any other suitable or preferred form. The tines of the electrode are enclosed in small individual or separate tubes of glass or other suitable insulating material and the cooperation between these tubes and the enclosed tines is such that the tubes are held firmly in place for use and at the same time this cooperation permits conveniently slipping or removing the tubes so that in the event one or more of the tubes should be broken they may be replaced quickly, conveniently and inexpensively from a reserve stock of such tubes which may be kept on hand.

30 The tubes of glass or other insulating material may be made of various wall thicknesses so as to adapt the device to both strong and feeble currents and the construction and mounting of the tubes upon the electrode together with the manner of cooperation of the electrode tines therewith

makes the tubes less liable to breakage and at the same time conveniently replaceable in the event of breakage.

The invention is illustrated in the accompanying drawing in which,

Figure 1 is a perspective view of an embodiment of the invention;

60 Fig. 2 is an enlarged end view of the electrode with the tines enclosing tubes in place and one of said tubes in section;

Fig. 3 is a fragmentary longitudinal section taken on the line 3—3 of Figure 2 with the connecting stem between the handle contact and the electrode at the outer end of the stem in elevation; and

70 Figure 4 is a detail cross section taken on the line 4—4 of Figure 3.

Referring now the drawing, the particular device selected for illustration comprises a handle 5 and an electrode designated in its entirety at 6.

The electrode 6 comprises a conducting stem 8 having an enlarged contact or connector head or plug 9 at its inner end for insertion into and removal from a contact or connector socket 10 mounted in the handle 5. The handle 5 may, as is usually the case, be adapted for use with various devices for treating different parts or giving different treatments, the plug 9 of the electrode 6 being sprung into the socket 10 for use and adapted to be removed when not in use or to permit of the use of a different electrode with the handle, as well understood in the art.

75 The contact socket or connector 10 may comprise a conducting sleeve suitably secured in the recess 12 in the handle 5 as by means of a screw 13. This contact sleeve is shown as split longitudinally at 14 with slots 15 extending circumferentially from the slot 14, the freed portions of the socket 10 being of sufficient springiness to grasp and hold the plug 9 and to make good contact therewith upon insertion of the electrode into the handle. The body of the handle 5 may be formed of suitable insulating material such as hard rubber, although this may be varied as desired as the handle, per se, forms no part of the present invention.

100 In the particular device shown one polarity of current is connected to the socket 10

by means of a conductor 16 entering the opposite end of the handle 5 and extending longitudinally therethrough and suitably connected to the socket member 10. The opposite end of the conductor 16 is provided with a single terminal contact 18 for connection to the desired source. The other polarity of current is usually applied through an electrode or terminal held in the hand of the person undergoing the treatment, as well understood in the art.

The outer end of the stem 8 is reduced at 20 and mounted upon this reduced end 20 and held in place as by means of a nut 21 threaded thereupon is the electrode proper which, in the particular embodiment illustrated, is shown as split at 22 into a pair of electrode members 24 and 25. The electrode members 24 and 25 each comprises a metal or other suitable conducting plate having connecting back portions 26 and a plurality of integral teeth or tines 28. The back portions 26 of the electrode members 24 and 25 have registering apertures 30 through which the reduced end 20 of the stem 8 extends and the members 24 and 25 are substantially identical so that when assembled the back portions 26 and tines 28 register as shown. The stem 8 obviously supports the electrode members 24 and 25 and forms the connector through which the current is supplied from the handle 5 to the tines or teeth 28.

Each tine comprising the two or split tine parts is enclosed in a relatively small tube 35. The tubes 35 may be formed of glass or other suitable insulating material and each tube is sealed at its lowered end at 36. The tubes 35 may be separate or individual to the separate or individual tines as shown and each tube is open at its upper end at 38 and the tubes are adapted to be slipped readily onto or from the respective tines. They are of the non-vacuum type and therefore not affected by puncture and they are preferably silvered on the inside.

For the purpose of holding the tubes 35 firmly yet removably in place upon the tines, the two parts or sides of each tine are shown as bowed apart at 42 in Figures 2, 3 and 4. The distance between the outer sides of the bowed portions 42 preferably exceeds slightly the internal diameter of the tube 35 and the springiness of the tine portions permits the tube to be slipped on over the bowed portions which are moved together slightly thereby and by their spreading tendency frictionally engage the interior of the tube 35 and hold the same firmly in place upon the particular tine with which the tube is associated.

The formation of the entire electrode of metal or other suitable or conducting material and the manner of mounting the sleeves or tubes 35 on the fingers or tines thereof provides great strength against breakage

and permits the use of individual or separate glass or other insulating tubes, one for each tine or finger. A reserve stock of these tubes 35 may be kept on hand and in the event of breakage of one or more of the tubes, they may be replaced quickly, simply and inexpensively.

As already explained, the tubes 35 may be of glass or any other suitably or preferred insulating material and they may be made up of different or various wall thicknesses so as to be adapted for both strong or feeble currents. The walls of the tubes 35 may be relatively thick as shown to have relatively great strength against breakage. The inner electrode fingers or tines still further strengthen the tubes 35 and in the event of breakage, any tube may be replaced without disabling or replacing the entire device.

In the present device, the connecting stem for insertion into and removal from the handle 5 may be of metal and may therefore have relatively great strength. Where the electrode fingers are not split, they could be humped within their length and provided with sufficient inherent springiness as in the present embodiment for firmly holding the surrounding or enclosing tubes in place.

I do not intend to be limited to the precise details shown or described.

I claim:—

1. In a device of the class described, the combination of an electrode having a part for cooperation with the scalp and an insulating tube enclosing said scalp cooperating part, said tube being closed at the scalp end and open at its opposite end for slipping onto and from said scalp cooperating part.

2. In a device of the class described, the combination of an electrode having a part for cooperation with the scalp, an insulating tube enclosing said scalp cooperating part, said tube being closed at the scalp end and open at its opposite end for slipping onto and from said scalp cooperating part, and means removably holding said tube on said part.

3. In a device of the class described, the combination of an electrode having a part for cooperation with the scalp, an insulating tube enclosing said scalp cooperating part, said tube being closed at the scalp end and open at its opposite end for slipping onto and from said scalp cooperating part, and said scalp cooperating part having spring retention means formed thereon for removably holding said tube on said part.

4. In combination, an electrode having a plurality of teeth, individual insulating tubes enclosing said teeth, said tubes being separately removable and means on said teeth for holding said tubes thereon.

5. In a device of the class described, the combination of an electrode, teeth on said electrode, said teeth being bowed within

their length and insulating tubes slipped upon and enclosing said teeth and held thereon by said bowed portions.

5 6. In a device of the class described, the combination of an electrode, teeth on said electrode, said teeth being split to free the opposite sides thereof and said sides being bowed outwardly away from each other and insulting tubes slipped upon and enclosing
10 said teeth and held thereon by said bowed portions.

7. In a device of the class described, the combination of an electrode comprising a pair of electrode members, supplementary
15 teeth portions on said members, said teeth portions being bowed outwardly within their lengths, a mounting and contact stem for said members, means fastening said members

upon said stem and together, and insulating tubes each closed at one end and open at the
20 opposite end and slipped upon said teeth and over said bowed portions.

8. In combination, a metal stem having a reduced outer end, a pair of metal electrodes mounted upon said reduced outer end, a nut
25 threaded upon said reduced end and clamping said electrodes together and upon the stem, said electrodes having teeth bowed to form retention means and separate glass
30 tubes slipped upon said teeth and held by said retention means, said tubes being individually replaceable.

In witness whereof, I hereunto subscribe my name this 1st day April, 1926.

WILLIAM MEYER.